# ENVIRON

June 8, 2005

Via E-Mail

Ms. Barbara Sieminski California Regional Water Quality Control Board San Francisco Bay Region 1515 Clay St. Suite 1400 Oakland, CA 94612

Re: Site Status Report

Crossroads (Former Montgomery Ward)

2302 Monument Boulevard

Pleasant Hill, California (File No. 07S0104)

Dear Barbara:

On behalf of ICI Development Company (ICI)/PH Holdings, L.P. (collectively "Client"), ENVIRON International Corporation (ENVIRON) is pleased to submit to the California Regional Water Quality Control Board – San Francisco Bay Region (Regional Board) this report regarding current site conditions at the former Montgomery Ward site, Contra Costa County, Pleasant Hill, California. The site is now known as The Crossroads at Pleasant Hill (hereafter "the site" or "the Crossroads site;" see Figures 1 and 2).

#### A. Current Physical Site Conditions

The site occupies the northern portion of the Contra Costa Center mall. It was formerly occupied by Montgomery Ward, which included a retail building and an auto repair facility known as Auto Express (the facility). The City of Pleasant Hill and Pleasant Hill Redevelopment Agency have approved The Crossroads at Pleasant Hill redevelopment project, which includes: (i) remodeling of the former Montgomery Ward building for occupancy by Kohl's Department Store (Kohl's); (ii) construction of four retail buildings, referred to as shop buildings; and (iii) widening of Buskirk Avenue. The site plan presented on Figure 3 shows the outlines for the Montgomery Ward building, the Kohl's building, and the shop buildings. The site area is approximately 8.25 acres, which does not include the 0.34 acre that was dedicated by Client to the City of Pleasant Hill for the widening of Buskirk Avenue. Currently, Client is performing redevelopment construction activities at the site and the City of Pleasant Hill is performing right-of way improvement along the northern and eastern sides of the site.

The CCC Associates property (CCC site), with an area of approximately 1.20 acres, is located immediately south, and hydraulically upgradient, of the Crossroads site. From 1967, or earlier, until 1984, the former Cleanco Dry Cleaners operated in two suites at the CCC site.

The former Montgomery Ward building, which has been reduced in size to 100,000 square feet (sq. ft.), as shown on Figure 3, was handed over to Kohl's earlier this month for Kohl's opening in early October 2005. Client is currently constructing the four shop buildings, which include two smaller buildings, referred to as Shop 1 (3,948 sq. ft.) and Shop 2 (2,858 sq. ft.) buildings, along the eastern side of Kohl's building, and two larger buildings, referred to as Shop 3 (20,107 sq. ft.) and Shop 4 (11,103 sq. ft.) buildings, along the northern end of the site (see Figure 3). The shop buildings will be occupied by such businesses as bookstores, beauty salons, clothing stores, shoe stores, and restaurants. The shop buildings are slated for completion by early September 2005 for delivery to the prospective tenants.

# B. Facility Decommissioning and Soil and Ground Water Investigations

In May 2004, ENVIRON performed decommissioning of the former Auto Express facility (ENVIRON, 2004a). As part of its efforts, ENVIRON removed (i) a 500-gallon waste oil aboveground storage tank (AST); (ii) ten hydraulic lifts, labeled L-3 through L-12, and associated piping and oil reservoirs; and (iii) three sumps known as the East Sump, the West Sump, and the Battery Area Sump. Figure 4 shows the locations of the former AST, the two service bay areas along which the former hydraulic lifts were located, and the three former sumps.

In June and July 2004, ENVIRON conducted additional Remedial Investigation (RI) activities to characterize the conditions in soil, soil gas, and ground water at the site. The results were presented in ENVIRON (2004b) and are discussed in various sections of this status report.

In 2004, ENVIRON performed three quarterly ground water monitoring events at the site. The 1st quarterly ground water monitoring event was conducted in June 2004 (ENVIRON, 2004c); the 2nd quarterly ground water monitoring event was conducted in September 2004 (ENVIRON, 2004d); and the 3rd quarterly ground water monitoring event was conducted in November 2004 (ENVIRON, 2005b).

Depth to ground water in the wells at the site, as measured by ENVIRON on November 29, 2004, ranged between 7.31 and 11.11 feet below the top of the well casings (ENVIRON, 2005b). Calculated ground water elevations ranged between 50.82 and 51.49 feet above mean sea level (MSL). The ground water gradient was estimated to flow in a northeasterly direction, and was estimated to be approximately 0.002 foot per foot, which is relatively flat.

Results of the quarterly ground water monitoring events showed that PCE, TCE and cis-1,2-dichloroethene (cis-1,2-DCE) were the most commonly detected volatile organic compounds (VOCs) in the ground water under the site (see Figure 5). Total petroleum hydrocarbons (TPH) as gasoline (TPHg), as diesel fuel (TPHd), and as heavy hydrocarbons (TPHh) were detected in select ground water monitoring wells. Additionally, low concentrations of barium and zinc were detected in select ground water monitoring wells.

During the  $3^{rd}$  quarterly event, the highest reported concentration of PCE was 67.7 micrograms per liter (µg/l) in Well GWENV-4; the highest reported concentration of TCE was 24.2 µg/l in Well GWENV-3; and the highest reported concentration of cis-1,2-DCE was 5.7 µg/l in Well GW1. TPHd and TPHh were reported in Well GW2 at an estimated concentration of 0.356 milligram per

liter (mg/l) and a concentration of 1.24 mg/l, respectively. In general the results for the  $3^{rd}$  quarterly event were similar to those for the  $2^{nd}$  quarterly event.

Upon completion of the November 29, 2004 ground water sampling event, 11 of the 15 monitoring wells were abandoned in December 2005 due to the planned redevelopment activities at the site and widening of Buskirk Avenue (ENVIRON, 2005b). Further, on April 25, 2005, one more ground water monitoring well was abandoned because of additional street widening construction requirements. The three wells that remain at the site are Wells LF1, ENSR-MW5, and GWENV-4 (see Figure 5). ENVIRON will recommend the installation of several new wells at the site when the paving activities are completed at the parking lots of the site.

# C. Initially Identified Areas of Concern

Upon completion of its additional RI, ENVIRON identified five on-site areas of concern (AOC) and one off-site AOC based on the presence of chemicals in soil and/or ground water. The following AOCs were identified in the RI report (ENVIRON 2004b and Figure 4):

#### On-Site AOCs:

- AOC-1: Soil and ground water at the former Auto Express facility;
- AOC-2: Soil and ground water at the former underground storage tank (UST) area just outside of the northeastern corner of the former Auto Express facility;
- AOC-3: Soil and ground water at the former passenger elevator area at the northwestern portion of the former Montgomery Ward building;
- AOC-4: Soil and ground water at the former freight elevator area in the south-eastern portion of the main Montgomery Ward building; and
- AOC-5: Ground water under the site<sup>1</sup>.

# Off-Site AOC:

• AOC-6: Ground water under Buskirk Avenue downgradient from the site<sup>2</sup>.

#### **D.** Current Soil Conditions

Impacted soil identified in AOC-1 through AOC-4 was excavated and removed from the site. The need to perform additional soil excavation was based on a comparison of soil sample data from ENVIRON's RI activities to the lower of risk-based target concentrations (RBTCs) or

<sup>1</sup> ENVIRON (2004b) identified the South Parking Lot, which is shown on Figure 4, as a ground water AOC; however, ENVIRON now believes that ground water at other areas of the site should also be included in this AOC, as discussed in Section C.

<sup>&</sup>lt;sup>2</sup> ENVIRON (2004b) identified ground water under Buskirk Avenue as an AOC; however, as discussed in Section D, ENVIRON also evaluated the soil gas under Buskirk Avenue.

Environmental Screening Levels (ESLs). RBTCs were developed by ENVIRON and subsequently presented in ENVIRON's Human Health Risk Assessment (HHRA) report, which is discussed in Section G. RBTCs were developed to be protective of human health under future on-site commercial worker, construction worker, and visitor scenarios as well as current off-site residential scenarios. The ESLs are established by the Regional Board and are protective of ground water (an Interim Final version of the ESLs guidelines, entitled *Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater*, was issued in February 2005). Soil excavation was limited to the removal of impacted soil above the ground water bearing zone, which occurs at a depth of approximately 8 to 12 feet below ground surface beneath the site.

This section discusses AOC-1 through AOC-4. AOC-5 is discussed in Section E and AOC-6 is discussed in Section F.

- **Former Auto Express Facility (AOC-1)** The main site features removed from the former Auto Express facility, and the soil cleanup operations completed, were as follows (see Figure 4):
  - 1. Waste Oil AST In May 2004, ENVIRON removed the 500-gallon waste oil AST from the northeastern corner of the former Auto Express facility. The concrete sidewalls of the secondary containment were broken up and removed from the site. The concrete underlying the AST was observed not to be stained and was left in place.
  - 2. Former Hydraulic Lifts and Sumps In May 2004, ENVIRON removed ten hydraulic lifts and associated subsurface piping and oil reservoirs, which were located within two service bay areas in the former Auto Express facility (ENVIRON, 2004a). In May and June 2004, ENVIRON removed the East Sump, the West Sump, and the Battery Area Sump, from the former Auto Express facility (ENVIRON, 2004a). In November 2004, following the demolition of the facility building, ENVIRON excavated soil in the areas of the former hydraulic lifts (five lift areas) and the East Sump (ENVIRON, 2004e). In January 2005, ENVIRON performed supplemental excavation of impacted soil at the former Lift L-6 and the East Sump areas and removed residual impacted soil (ENVIRON, 2005d).

Based on the un-stained conditions of the concrete underlying the AST and the results of confirmation soil samples collected across the former Auto Express facility, and the fact at certain locations impacted soil was excavated to the top of the water table, ENVIRON concluded that no further investigation or soil excavation was necessary at the facility (AOC-1).

• Former UST Excavation Area (AOC-2) – In January 2005, ENVIRON excavated the former UST area just outside of the northeastern corner of the former Auto Express facility (see Figure 4). In 1962, three 1,000-gallon USTs had been installed at this location for the storage of motor oil. The USTs were removed in 1986 and the tank pit was backfilled. Upon excavation of the fill material by ENVIRON, an underground concrete slab, which

was present at a depth of approximately 8 feet bgs, was exposed, broken up, and removed from the excavation. On the eastern portion of the excavation, an approximately 2-foot wide strip of the concrete slab was not removed to prevent undermining of the excavation wall, which abutted Buskirk Avenue. Discolored soil was not observed underneath the concrete slab. Upon completion of soil excavation activities, the excavation was backfilled. The left-in-place concrete strip was removed in late May 2005 during the street widening activities by the City of Pleasant Hill.

Based on the results of confirmation soil samples collected, ENVIRON concluded that no further soil investigation and/or remediation was necessary at the location of the former UST excavation (AOC-2).

• Former Elevators (AOC-3 and AOC-4) – The former passenger and freight elevator pits, their associated cylinders, and soil impacted with TPH were removed in December 2004 (ENVIRON, 2005e). Approximately 2,100 gallons of water was transported off-site for recycling. Further, approximately 71 tons of TPH-impacted soil was transported off-site for disposal.

Soil left in-place in both elevator areas had reported concentrations of TPHh below its ESL of 1,000 milligrams per kilogram (mg/kg). Soil left in place in the passenger elevator area had reported concentrations of TPHd below its ESL of 100 mg/kg. However, in the freight elevator area, a soil sample, which was collected from immediately above the ground water table, had a reported concentration of 110 mg/kg, which was slightly above the ESL of 100 mg/kg. Because the bulk of impacted soil at the location of the former elevators had been excavated, and because ESLs were developed based on assumptions that are considered to be generally conservative, ENVIRON concluded that the slightly elevated residual concentration of TPHd at the location of the former freight elevator would not represent a significant source for ground water impact. Upon completion of soil excavation activities, the elevator area excavations were backfilled with crushed concrete and filled up to the existing ground surface.

Based on the results of confirmation soil samples collected, ENVIRON concluded that no further soil investigation and/or remediation was necessary at the former passenger and freight elevator areas (AOC-3 and AOC-4, respectively).

# E. Current Ground Water Conditions under the Site (AOC-5)

The ground water under the site is impacted with VOCs, specifically under the East Sump and the eastern side of the former Auto Express facility, in the area of the former UST excavation, in the area of the former freight elevator, and in the South Parking Lot (see Figure 4). The ground water under the former passenger elevator is impacted with TPHd and TPHh.

ENVIRON believes that the source of the VOC impact at the South Parking Lot is the former dry cleaners operations at the CCC Associates site, which is immediately upgradient from this area (see Figure 5 and Section H). On behalf of Client, ENVIRON has submitted a work plan to the Regional Board to perform additional soil and ground water investigations at the CCC Associates

site (ENVIRON 2005g and h). Further, ENVIRON is currently completing a feasibility study (FS) to address the ground water under the areas of the site with identified ground water impact, including the South Parking Lot.

#### F. Ground Water under Buskirk Avenue (AOC-6)

To assess the potential presence of contaminants in ground water downgradient and off-site, ENVIRON collected grab ground water samples from three borings along Buskirk Avenue (ENVIRON, 2004b). The results showed relatively low concentrations of PCE (up to 23.4  $\mu$ g/l), TCE (up to 9.9  $\mu$ g/l), and cis-1,2-DCE (up to 8.8  $\mu$ g/l). These concentrations slightly exceeded their ESLs.

In September 2004, ENVIRON performed an off-site soil gas investigation along the eastern edge of Buskirk Avenue (ENVIRON, 2005a). Five soil gas samples, collected at depths of 3 to 5 feet below ground surface, were analyzed for VOCs. Benzene; toluene; ethylbenzene; xylenes; 1,1-dichloroethene; 1,2,4-trimethylbenzene; and 1,3,5-trimethylbenzene were the only VOCs present in soil gas samples. Benzene was the only detected VOC, which was detected at two locations at concentrations exceeding the minimum corresponding residential soil gas RBTCs. Benzene was not detected at the remaining three samples, which were collected from locations downgradient from the two sampling locations where benzene was detected. The aforementioned grab ground water samples collected in 2004 near these soil gas sampling locations did not contain any reportable concentrations of benzene (ENVIRON, 2004b). Because benzene concentrations detected at the site were much lower than those detected on Buskirk Avenue, it is ENVIRON's opinion that the presence of benzene could be attributed to off-site location(s)<sup>3</sup>.

#### G. Human Health Risk Assessment

In March 2005, ENVIRON completed an HHRA to assess potential exposures to site-related chemicals by current and future on-site and off-site populations (ENVIRON, 2005f). RBTCs for chemicals detected in ground water, soil gas, and soil were developed to be protective of human health under future on-site commercial worker, construction worker, and visitor scenarios and current off-site residential scenarios. The detected chemical concentrations were then compared to the calculated RBTCs and ESLs to identify potential areas needing further investigation and/or remediation prior to redevelopment.

The HHRA results showed that for exposure to soil, arsenic was the primary risk driver for the construction worker (95%), commercial worker (90%), and visitor (96%). A comparison of the detected arsenic concentrations to two studies of background levels of inorganic compounds in California soils showed that arsenic detected at the site is representative of background levels and is not associated with previous site activities. For the construction worker, commercial worker, and visitor, the cumulative risk associated with all other chemicals detected in soil was less than  $1 \times 10^{-6}$  (i.e., below the low end of the target cancer risk range of  $1 \times 10^{-6}$  to  $1 \times 10^{-4}$ ).

For the construction worker population, only arsenic was detected at a concentration exceeding a corresponding construction worker soil RBTC. For TPHh, arsenic, cadmium, cobalt, and nickel, the

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Fair Oaks Mini-Market gas station, which is located approximately 600 feet south-southeast of the property, is upgradient from the property. This site is listed on the LUST database.

calculated excess lifetime cancer risk was at the low end of the target cancer risk range (1 x  $10^{-6}$  to 1 x  $10^{-4}$ ) and the noncancer Hazard Index (HI) was well below the target level of 1.

For the commercial worker population, PCE, naphthalene, and arsenic were detected at concentrations exceeding corresponding commercial worker soil RBTCs. The calculated cumulative excess lifetime cancer risk was within the target cancer risk range ( $1 \times 10^{-6}$  to  $1 \times 10^{-4}$ ) and the noncancer HI was well below the target level of 1.

For the visitor population, PCE, TPHh, arsenic, and cadmium were detected at concentrations exceeding corresponding visitor soil RBTCs. The calculated cumulative excess lifetime cancer risk was within the target cancer risk range (1 x  $10^{-6}$  to 1 x  $10^{-4}$ ) and the noncancer HI was well below the target level of 1.

# H. Former Dry Cleaners at the CCC Site

From 1967, or earlier, until 1984, the former Cleanco Dry Cleaners operated at the CCC site. The dry cleaning operations were conducted in Suite 2334 Monument Boulevard, which is currently leased to Exotic Birds & Supplies, and Suite 2320 Monument Boulevard, which is currently leased to Keys Pool Service. Both suites are hydraulically upgradient of the Crossroads site (see Figures 4 and 5).

There are three ground water monitoring wells at the CCC site, Wells MW-1, MW-2, and MW-3, which are installed in the parking lot of that site (see Figure 5). These wells were installed in June 1993. According to Environmental Bio-Systems, Inc. (EBS, 2004a), EBS performed eight rounds of quarterly ground water monitoring events between November 1995 and December 1997. On July 1, 2004 and October 1, 2004, EBS performed two more quarterly ground water monitoring rounds at these three wells (EBS, 2004a and 2004b). Further, on November 29, 2004 and March 1, 2005, Clearwater Group (Clearwater), which is a business partner of EBS, performed two additional ground water monitoring rounds at these three wells (Clearwater, 2004 and 2005). The main results obtained during the latest (March 1, 2005) ground water monitoring event were as follows:

- Depth to static ground water in the wells was between 6.65 and 7.74 feet below ground surface. Ground water elevation was approximately 2 feet higher than the ground water elevation measured on November 29, 2004.
- Ground water flow direction was estimated to be toward the north, and had an estimated horizontal flow gradient of approximately 0.0025 foot per foot. Ground water flow direction was estimated to be toward northeast on November 29, 2004.
- The reported PCE concentration for Well MW-1 was 24 μg/l, which was lower than the 100 μg/l concentration reported on November 29, 2004. For this well, the highest historically reported PCE concentration has been 680 μg/l (during the August 1997 event). Other chlorinated hydrocarbons reported for Well MW-1 during the March 1, 2005 event included 4.4 μg/l of TCE; 4.1 μg/l of cis-1,2-DCE; and 4.0 μg/l of chloroform.
- The reported PCE concentration for Well MW-2 was 11 μg/l, which was lower than the 120 μg/l concentration reported on November 29, 2004. For this well, the highest

historically reported PCE concentration has been 430  $\mu$ g/l (during the February 1996 event). Other chlorinated hydrocarbons reported for Well MW-2 during the March 1, 2005 event included 1.4  $\mu$ g/l of TCE and 0.78  $\mu$ g/l of cis-1,2-DCE.

• PCE, TCE, and cis-1,2-DCE were not reported at concentrations above laboratory reporting limits in Well MW-1. The last event during which any chlorinated hydrocarbon was reported for this well was August 1996.

On May 12, 2005, ENVIRON submitted a work plan to the Regional Board for performing soil and ground water investigation at the CCC site (ENVIRON, 2005g). On June 1, 2005, ENVIRON submitted an addendum to the work plan to the Regional Board (ENVIRON, 2005h). The scope of proposed work includes advancing up to thirteen soil borings, collecting four grab ground water samples, and installing new ground water monitoring wells at three or four locations at the CCC site. On June 1, 2005, the Regional Board approved the scope of work proposed in the work plan and its addendum. ENVIRON has initiated the implementation of the work plan, which is slated for completion by the latter part of August 2005.

# I. Conclusions and Recommendations

ENVIRON makes the following conclusions and recommendations regarding the Crossroads and the CCC sites:

- ENVIRON believes that no further action is required regarding impacted soil at the Crossroads site.
- New ground water monitoring wells should be installed at the Crossroads site when the upcoming paving activities are completed at the parking lots of the site in or about July 2005. Quarterly monitoring of the new and existing ground water monitoring wells at the Crossroads and the CCC sites should be performed concurrently.
- Upon implementation of the proposed soil and ground water investigations at the CCC site, impacted soil under that site, if identified, should be mitigated. Ground water under the CCC site should be addressed as discussed under the next paragraph.
- ENVIRON considers the current concentrations of VOCs in the ground water under the Crossroads and the CCC sites as only moderately elevated. ENVIRON believes that the ground water at both sites could be addressed by either long-term ground water monitoring or such *in situ* technologies as chemical oxidation. Further, ENVIRON believes that the ground water issue should be addressed concurrently at both sites. ENVIRON should complete the FS for the Crossroads site, and perform an FS for the CCC site, to address the ground water at both sites. The FS recommendations, when submitted to and approved by the Regional Board, should be implemented at both sites.

#### J. Closure

As always, ENVIRON appreciates your cooperation and assistance in providing timely oversight for this project. We will call you to enquire if you have any questions or comments regarding this report.



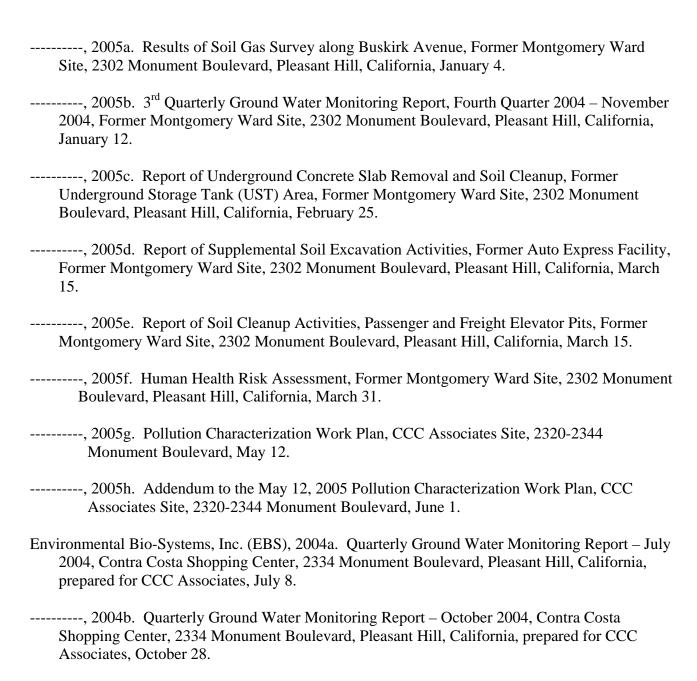
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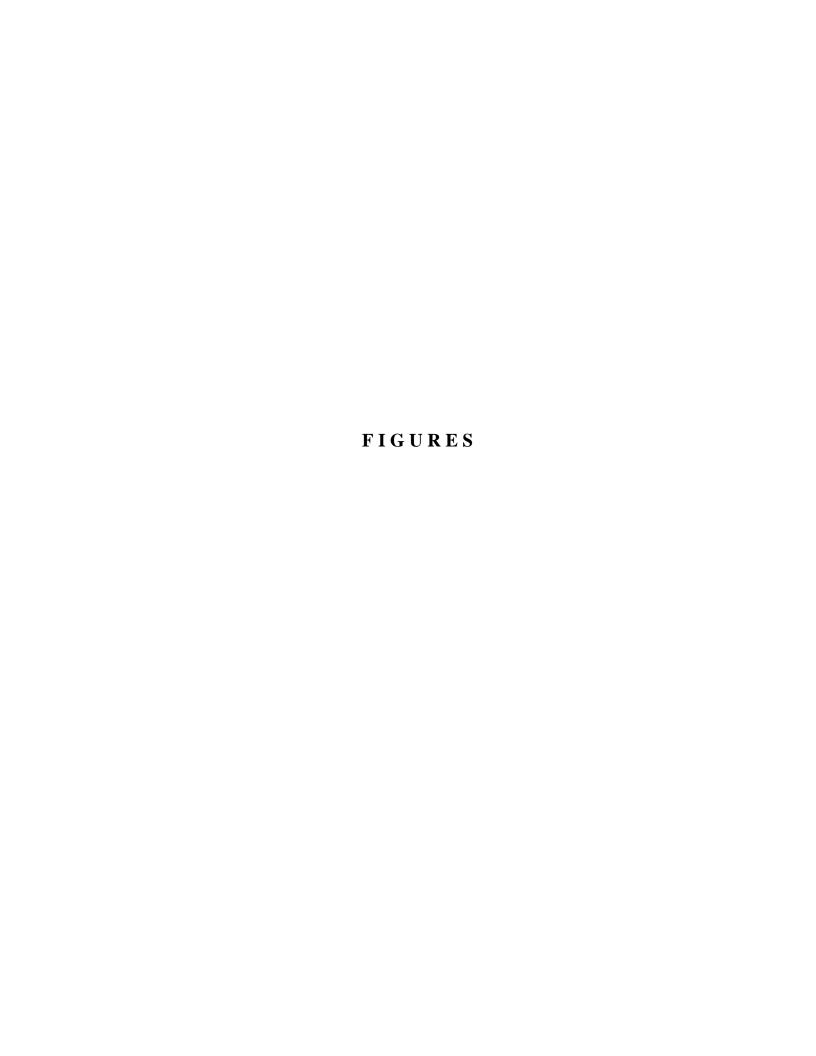
Enclosures: Figures 1 through 5

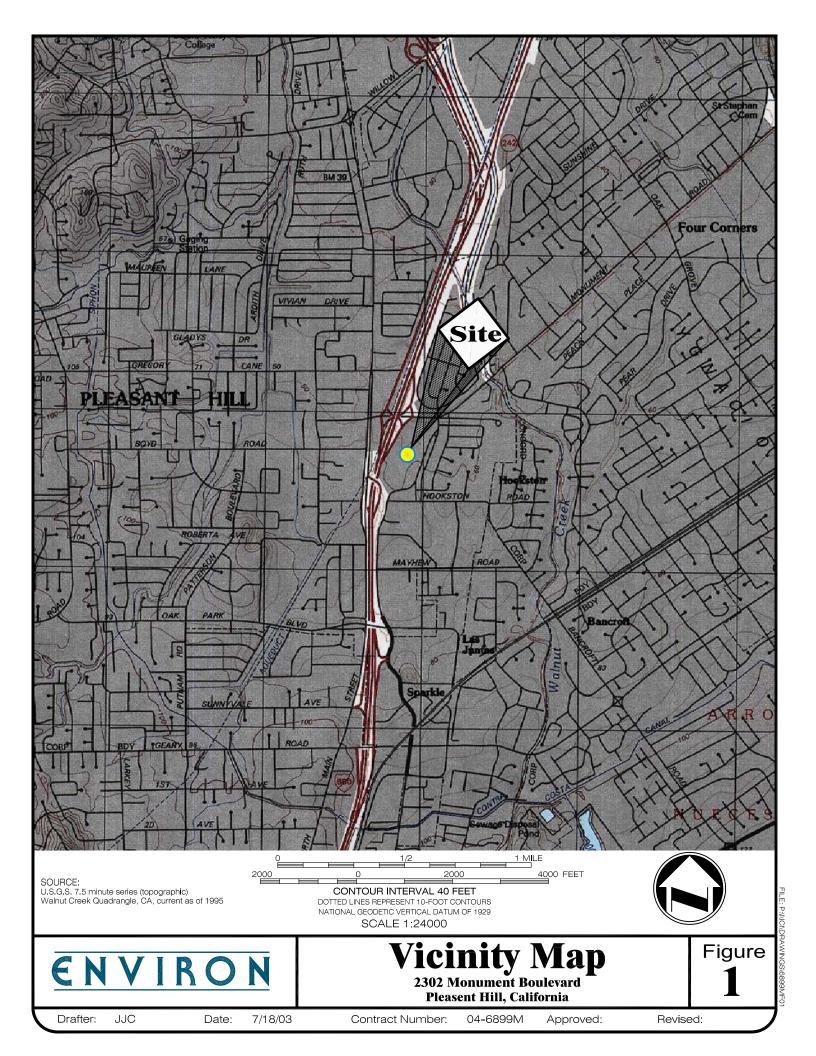
Copy: Mr. Dan Wojkowski – ICI Development Company (via e-mail)

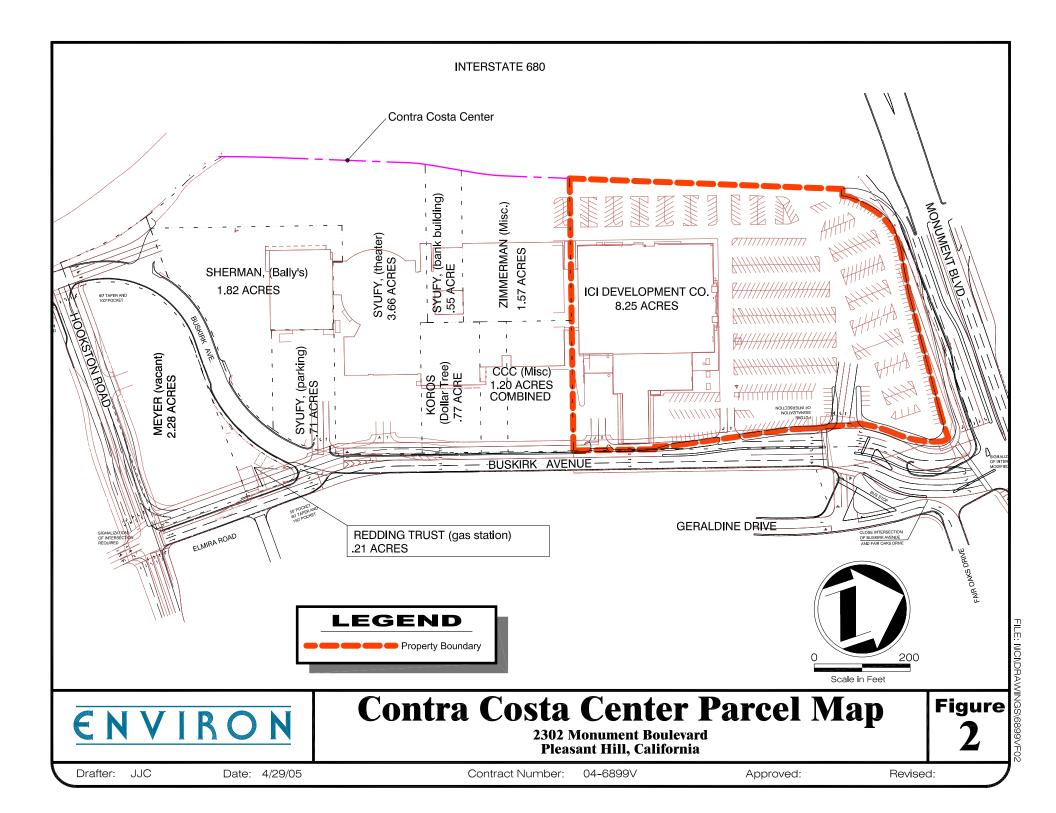
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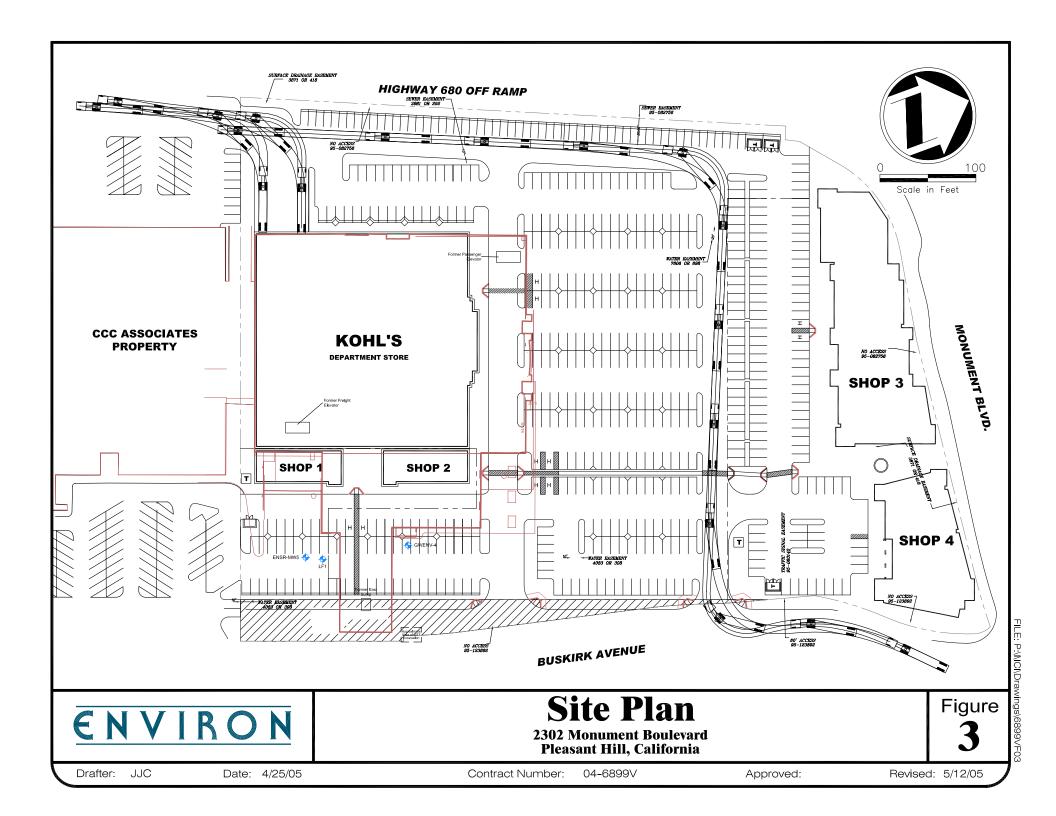
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- -----, 2004b. Additional Remedial Investigation Report, Former Montgomery Ward Site, 2302 Monument Boulevard, Pleasant Hill, California, July.
- -----, 2004c. 1<sup>st</sup> Quarterly Ground Water Monitoring Report, Second Quarter 2004 June 2004, Former Montgomery Ward Site, 2302 Monument Boulevard, Pleasant Hill, California, July.
- -----, 2004d. 2<sup>nd</sup> Quarterly Ground Water Monitoring Report, Third Quarter 2004 September 2004, Former Montgomery Ward Site, 2302 Monument Boulevard, Pleasant Hill, California, October 28.
- -----, 2004e. Summary of Additional Soil Excavation Activities and Work Plan for Supplemental Soil Excavation, Former Auto Express Facility, Former Montgomery Wards Site, 2302 Monument Boulevard, Pleasant Hill, California, December 7.

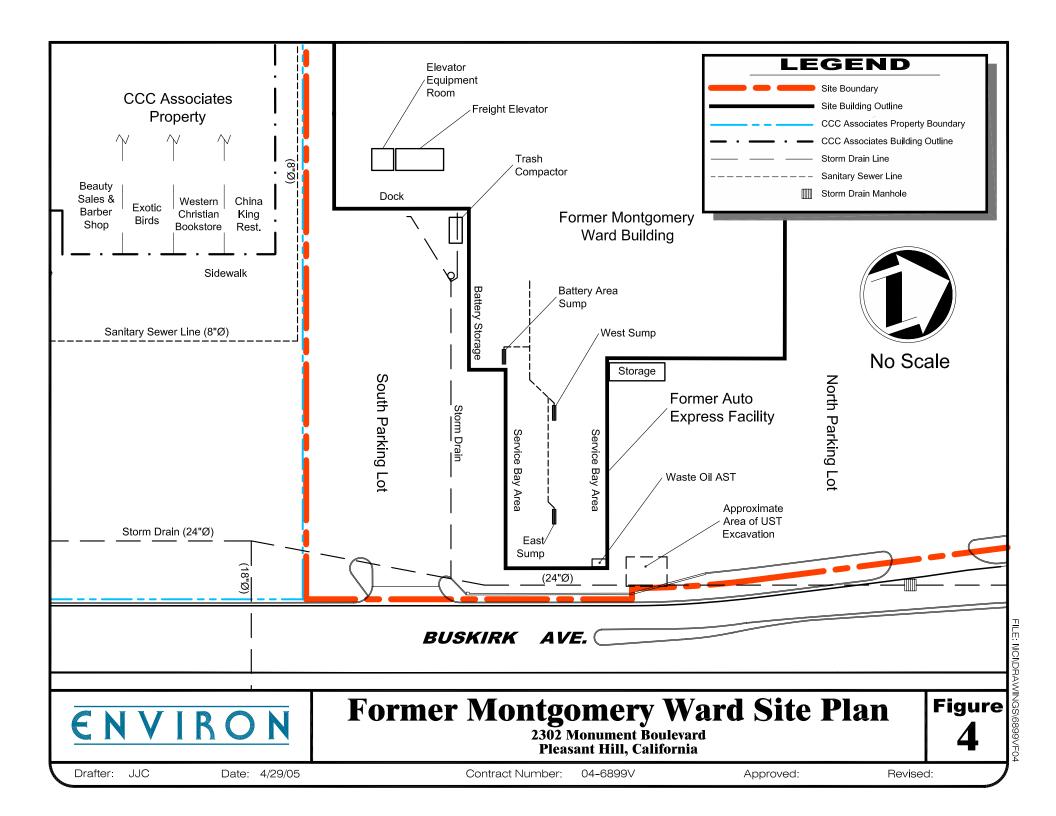


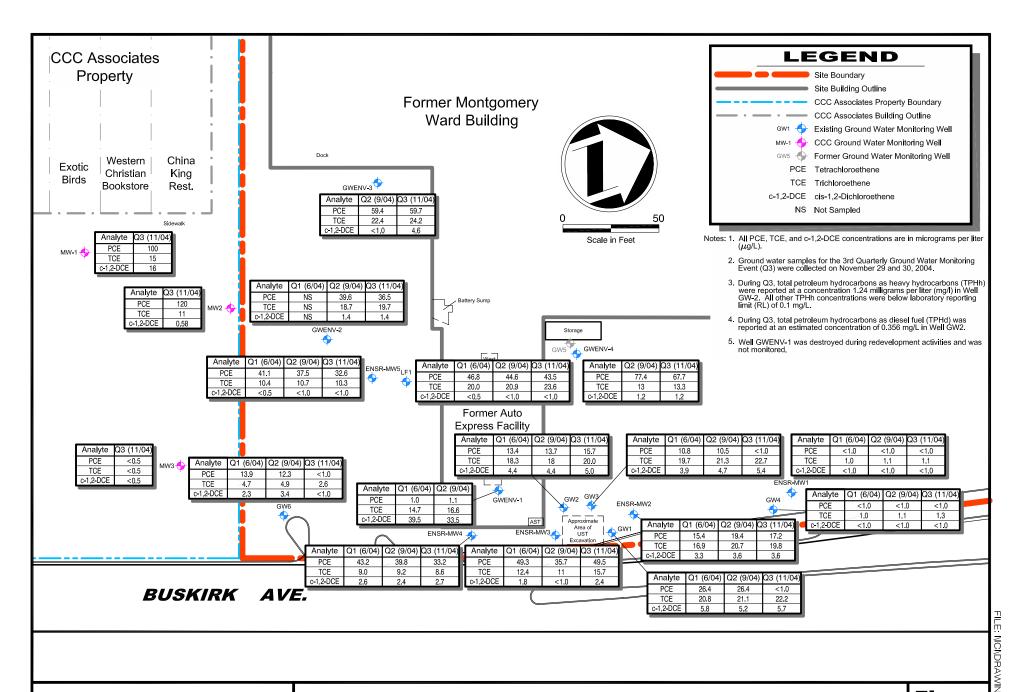














# **Quarterly Ground Water Analytical Results**

2302 Monument Boulevard Pleasant Hill, California Figure 5

Drafter: JJC Date: 4/29/05 Contract Number: 04-6899V Approved: Revised: